

Docket No. 030286

Serial No. 10/705,798

AMENDMENTS TO THE CLAIMS:

1. (currently amended): A method comprising:

receiving information from a subscriber unit of a wireless communication system, the information being indicative of signals detected by the subscriber unit in the wireless communication system;

dividing an area where the subscriber unit is suspected to be into a plurality of sectors; and

scoring the sectors based on the information, wherein a score for a respective sector indicates a likelihood that the subscriber unit is in the respective sector; and

determining position assistance information based on the score for the respective sectors, for determining a position of the subscriber unit.

2. (original): The method of claim 1, further comprising scoring the sectors based on the information for each of a plurality of timing errors hypothesized for the subscriber unit.

3. (original): The method of claim 1, further comprising:

identifying a subset of the sectors that have high scores; and

sending position assistance information to the subscriber unit based on the subset of the sectors.

4. (original): The method of claim 3, wherein the position assistance information identifies a set of global positioning system (GPS) satellites.

5. (previously presented): The method of claim 1, further comprising:

identifying a subset of the sectors that have high scores;

dividing each sector of the subset of sectors that have high scores into sub-sectors; and

scoring the sub-sectors based on the information, wherein a score for a given sub-sector indicates a likelihood that the subscriber is in the given sub-sector.

Docket No. 030286

Serial No. 10/705,798

6. (original): The method of claim 5, further comprising:
  - identifying a subset of the sub-sectors that have high scores; and
  - sending position assistance information to the subscriber unit based on the subset of the sub-sectors.
7. (previously presented): The method of claim 5, further comprising:
  - identifying a subset of the sub-sectors that have high scores;
  - dividing each sub-sector of the subset of sub-sectors into sub-sub-sectors;
  - scoring the sub-sub-sectors;
  - identifying a subset of the sub-sub-sectors that have high scores; and
  - sending position assistance information to the subscriber unit based on the subset of the sub-sub-sectors.
8. (original): The method of claim 1, wherein the information includes phase offsets relative to system time, determined from the signals detected by the subscriber unit.
9. (original): The method of claim 1, further comprising:
  - identifying a first subset of the sectors that have high scores;
  - identifying a second subset of the sectors by removing one or more sectors from the first subset based on a determination that the one or more sectors correspond to a location of a repeater in the wireless communication system; and
  - sending position assistance information to the subscriber unit based on the second subset of the sectors.
10. (original): The method of claim 1, wherein scoring the sectors includes increasing a given score of a given sector when one or more detected signals correlate with expected signals of one or more base stations in proximity to the given sector.
11. (original): The method of claim 1, wherein scoring the sectors includes modifying a given score of a given sector when a repeater is associated with the given sector.

Docket No. 030286

Serial No. 10/705,798

12. (currently amended): A method comprising:

receiving information from a subscriber unit of a wireless communication system, the information being indicative of signals detected by the subscriber unit in the wireless communication system;

identifying two or more probable locations of the subscriber unit based on the information; and

scoring the two or more probable locations of the subscriber unit based on the information; and

sending position assistance information to the subscriber unit based on the score of the two or more probable locations.

13. (original): The method of claim 12, wherein the position assistance information identifies a set of global positioning system (GPS) satellites.

14. (currently amended): A method comprising:

detecting signals associated with base stations of a wireless communication system;

sending information from a subscriber unit, the information being indicative of the detected signals; and

receiving position assistance information that identifies two or more probable locations of the subscriber unit; and

using the position assistance information to determine a location of the subscriber unit,

wherein the step of using provides the location of the subscriber unit in a reduced time period relative to a time period required to determine the location independently of the position assistance information.

15. (original): The method of claim 14, wherein the position assistance information identifies a set of global positioning system (GPS) satellites.

Docket No. 030286

Serial No. 10/705,798

16. (original): The method of claim 15, further comprising identifying a position of the subscriber unit using signals from one or more satellites in the set of GPS satellites.

17. (currently amended): A computer-readable medium comprising computer-readable instructions that when executed in a position determination entity (PDE) cause the PDE to:

divide an area where a subscriber unit of a wireless communication system is suspected to be into a plurality of sectors; and

score the sectors based on information received from the subscriber unit, the information being indicative of signals detected by the subscriber unit in the wireless communication system, wherein a score for a respective sector indicates a likelihood that the subscriber is in the respective sector; and

determine position assistance information based on the score for the respective sectors, the position assistance information capable of being used to determine a position of the subscriber unit.

18. (original): The computer-readable medium of claim 17, further comprising instructions that cause the PDE to score the sectors based on the information for each of a plurality of timing errors hypothesized for the subscriber unit.

19. (original): The computer-readable medium of claim 17, further comprising instructions that cause the PDE to:

identify a subset of the sectors that have high scores; and

send position assistance information to the subscriber unit based on the subset of the sectors.

20. (previously presented): The computer-readable medium of claim 17, further comprising instructions that cause the PDE to:

identify a subset of the sectors that have high scores;

divide each sector of the subset of sectors that have high scores into sub-sectors; and

score the sub-sectors based on the information, wherein a score for a given sub-sector indicates a likelihood that the subscriber is in the given sub-sector.

21. (original): The computer-readable medium of claim 20, further comprising instructions that cause the PDE to:

identify a subset of the sub-sectors that have high scores; and  
send position assistance information to the subscriber unit based on the subset of the sub-sectors.

22. (previously presented): The computer-readable medium of claim 20, further comprising instructions that cause the PDE to:

identify a subset of the sub-sectors that have high scores;  
divide each sub-sector of the subset of sub-sectors into sub-sub-sectors;  
score the sub-sub-sectors;  
identify a subset of the sub-sub-sectors that have high scores; and  
send position assistance information to the subscriber unit based on the subset of the sub-sub-sectors.

23. (original): The computer-readable medium of claim 17, further comprising instructions to cause the PDE to increase a given score of a given sector when one or more detected signals correlate with one or more base stations in proximity to the given sector.

24. (original): The computer-readable medium of claim 17, further comprising instructions to cause the PDE to modify a given score of a given sector when a repeater is associated with the given sector.

25. (currently amended): A position determination entity (PDE) of a wireless communication system, the PDE comprising:

a receiver to receive information from a subscriber unit of the wireless communication system, the information being indicative of signals detected by the subscriber unit in the wireless communication system; and

a processor to divide an area where the subscriber unit is suspected to be into a plurality of sectors, and score the sectors based on the information, and determine position assistance information based on the scores, wherein a score for a respective sector indicates a likelihood that the subscriber is in the respective sector and the position assistance information is capable of being used by the subscriber unit to determine a position of the subscriber unit.

26. (original): The PDE of claim 25, wherein the processor scores the sectors based on the information for each of a plurality of timing errors hypothesized for the subscriber unit.

27. (original): The PDE of claim 25, wherein the processor identifies a subset of the sectors that have high scores, the PDE further comprising a transmitter to send position assistance information to the subscriber unit based on the subset of the sectors.

28. (previously presented): The PDE of claim 25, wherein the processor identifies a subset of the sectors that have high scores, divides each sector of the subset of sectors that have high scores into sub-sectors, and scores the sub-sectors based on the information, wherein a score for a given sub-sector indicates a likelihood that the subscriber is in the given sub-sector.

29. (original): The PDE of claim 28, wherein the processor identifies a subset of the sub-sectors that have high scores, the PDE further comprising a transmitter to send position assistance information to the subscriber unit based on the subset of the sub-sectors.

30. (previously presented): The PDE of claim 28, wherein the processor identifies a subset of the sub-sectors that have high scores, divides each sub-sector of the subset of sub-sectors into sub-sub-sectors, scores the sub-sub-sectors and identifies a subset of the sub-sub-sectors that have high scores, the PDE further comprising a transmitter to send position assistance information to the subscriber unit based on the subset of the sub-sub-sectors.

31. (original): The PDE of claim 25, wherein the information includes phase offsets relative to system time, determined from the signals detected by the subscriber unit.

32. (original): The PDE of claim 25, wherein the processor identifies a first subset of the sectors that have high scores, and identifies a second subset of the sectors by removing one or more sectors from the first subset based on a determination that the one or more sectors are a location of a repeater in the wireless communication system.

33. (original): The PDE of claim 25, wherein the processor scores the sectors by increasing a given score of a given sector when one or more detected signals correlate with one or more base stations in proximity to the given sector.

34. (original): The PDE of claim 25, wherein the processor scores the sectors by modifying a given score of a given sector when a repeater is associated with the given sector.

35. (currently amended): An apparatus comprising:

means for receiving information from a subscriber unit of a wireless communication system, the information being indicative of signals detected by the subscriber unit in the wireless communication system;

means for dividing an area where the subscriber unit is suspected to be into a plurality of sectors; and

means for scoring the sectors based on the information, wherein a score for a respective sector indicates a likelihood that the subscriber is in the respective sector; and

means for determining position assistance information based on the scores, the position assistance information capable of being used by a subscriber unit to determine a location of the subscriber unit.

36. (original): The apparatus of claim 35, further comprising means for scoring the sectors based on the information for each of a plurality of timing errors hypothesized for the subscriber unit.